

ACKNOWLEDGEMENTS

The prawn species occurred under certain limnological conditions which shows that it is highly specific in regard to seasonal abundance and species specific in regard to substrata selection (Banik 1996). Though recorded in a freshwater lentic ecosystem in the present study, *M. dayanum* Henderson, 1893, is basically of marine origin and probably entered freshwater habitat by migrating via a riverine system (Tiwari 1955, Kurian and Sebastian 1986). Though it was known earlier from some states of India (Tripathi 1992, De 1996), it is reported here from Tripura and also from northeast India (ASFA 1998) for the first time. This report also confirms its cosmopolitan distribution (FAO 1985, Thakur *et al.* 1994, ASFA 1998).

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29. THE GASTROPOD *STENOTHYRA ORNATA* ANNANDALE AND PRASHAD 1921, A NEW RECORD FROM RIVER GANGA IN BIHAR

(With one text-figure)

The gastropod *Stenothyra ornata* from a brackish-water pool near Calcutta, has Annandale and Prashad 1921, originally known been recorded for the first time from the

freshwater zone of River Ganga at Sultanganj (771 km from the sea) in Bihar. The species is characterized by spines on the whorls, which are keeled in the middle.

Family Stenothyridae (Mollusca: Gastropoda) is distributed from Iran to Indonesia, from Australia to the Philippines and Japan, and Western Pacific Islands (Rao 1989). Neubert (1998) first recorded the genus *Stenothyra* from the Arabian Peninsula. *Stenothyra arabica* has been collected from several localities in Saudi Arabia, Yemen and Oman. Two genera, namely *Stenothyra* Benson 1856 and *Gangetica* Ancey 1890 are included in this family (Neubert 1998).

In May, 1998 two live specimens of *Stenothyra ornata* Benson were collected from submerged vegetation in the littoral zone of River Ganga at Sultanganj, 25° 15' N and 86° 44' E, (771 km from sea) near Bhagalpur, Bihar, while assessing the habitat preference of the Ganges river dolphin vis-à-vis biological diversity of River Ganga.

Diagnosis: The shell is conoidal ovate and brownish. Apex acutely pointed, with 5 whorls. Shell imperforate. Spiral whorls distinctly keeled in the middle, keel continues on to body whorl. Spiral rows of blunt, flattened horny and blackish spines on last two whorls in the region of the keel; spines directed towards apex.

Measurement of one of the shells by ocular micrometer (except length of the shell and breadth of the body whorl) is as follows:

Length of shell	4.5 mm
Breadth of body whorl	3.0 mm
Length of 1 st whorl	50 μ
Length of 2 nd whorl	200 μ
Length of 3rd whorl	275 μ
Length of 4th whorl	525 μ
Length of 5th whorl	1975 μ
Size of aperture	1150 x 1300 μ
Height of a spine	125 μ

The first two whorls are minute, the third onwards are broad and somewhat band-shaped. Viewed from the dorsal side, the body-whorl is sub-quadrate, ventrally it appears somewhat ovoidal, with the inverted apex sharply truncated. The mouth of the shell is minute, oblique and regularly subcircular. The rim of the mouth does not project at all and the shell is not umbilicate (Fig. 1).

Affinities: Annandale and Prashad (1921) remarked that the species *Stenothyra ornata* is closely allied to *Stenothyra deltae* (Benson) and *S. echinata*, but is distinguished by the larger and more acute spire, form of the body whorl, keeled nature of the whorls, sculpture and by the comparatively shorter and more circular mouth.

Annandale and Prashad (1921) revised the genus and recognized twelve species. They stated that these small water-snails, the shell of which is rarely more than 5 mm long, are found mainly in brackish water. A few make their way far inland, but it is doubtful whether any species exists only in fresh water. However, *Stenothyra foveolata* Benson was the only species known from the River Ganga at Sakrigali (5 km downstream of Sahibganj, Bihar), a distance of 650 km from the sea and about 466 km above the extreme tidal influence, but it may occur lower down as well as in the Gangetic delta (Annandale and Prashad 1921). Rao (1989) reported that the Family Stenothyridae is mainly estuarine and so far none of the species except *Stenothyra deltae* are reported from freshwater in India. However, distribution of *S. deltae* has been recorded up to Chandpal Ghat, Calcutta, in the tidal zone (Rao 1989). Annandale and Prashad (1921), however, reported that they were not aware of the location of the types, *S. deltae*, but the specimens in the Indian Museum are represented from Port Canning, Calcutta (Chandpal Ghat), Patna and Bhagalpur.

The species of *Stenothyra* frequent submerged vegetation or stones covered with

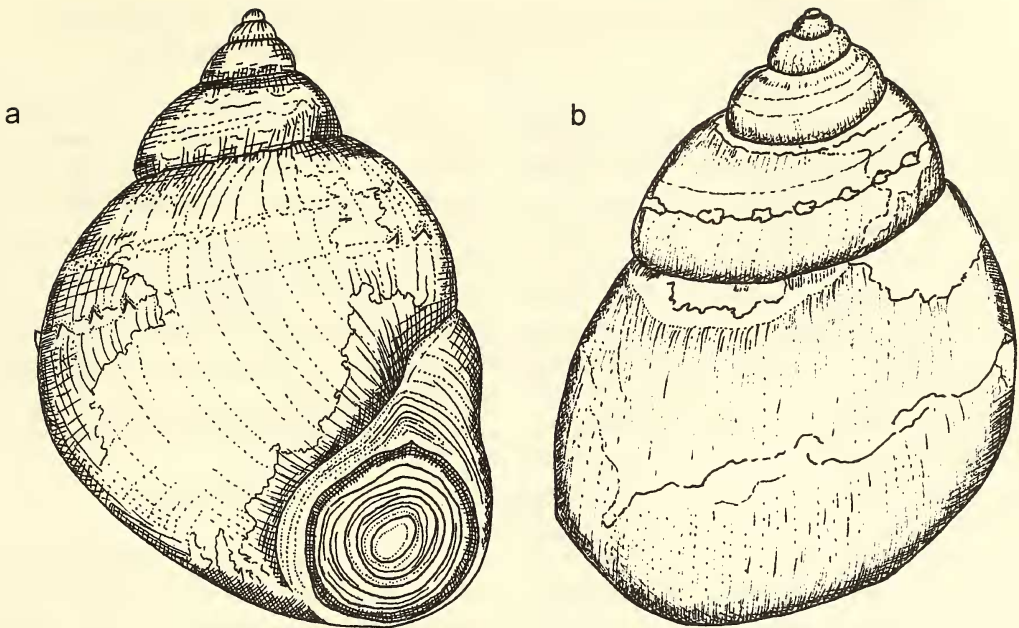


Fig. 1: *Stenothyra ornata* Annandale and Prasad, 1921, a. Ventral view, b. Dorsal view

algae and scrape them for the minute organisms that form their food. Their mobile and extensible snouts enable them to feed easily on the algae that grow on the shells of their companions and even from their own shells.

Stenothyra ornata may be one of the marine elements of the Ganga. However, it is not certain if the species has existed from the origin of the river or has entered the freshwater zone from the estuarine zone along with ships. Nevertheless, it has completely adapted itself to the freshwater zone of the river. Unless collected and sorted carefully, it is difficult to isolate the animal from the submerged vegetation due to its minute size. It can be confused with juveniles of other gastropods.

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